Authors have nothing to disclose with regard to commercial support.

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is complex and so too are the many variables that affect its management.

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DOES THE USE OF POLYTETRA FLUOROETHYLENE FELT AND BIOLOGICAL GLUE IN THE REPAIR OF ACUTE TYPE A AORTIC DISSECTION

SIGNIFICANTLY IMPACT THE SURGICAL OUTCOME?

To the Editor:

We read with great interest the article on a simple and effective approach to aortic root and arch repair in acute type A aortic dissection by Yang and colleagues.¹ We

congratulate them on their excellent outcomes of acute type A aortic dissection repair with meticulous suturing with 5-0 Prolene (Ethicon Inc, Somerville, NJ) sutures without Teflon felt (The Chemours Company, Wilmington, Del) or BioGlue (CryoLife Inc, Kennesaw, Ga). The simple approach, however, may result in more aortic root replacements. Most severely dissected aortic sinuses are suddenly dilated as a result of weakness of the dissected thin inner and outer walls. Except for aortic roots that are severely dilated (>4.5 cm), most dissected aortic roots can be re-modeled with BioGlue on the dissected plane. Aortic wall necrosis from BioGlue does not occur frequently²; however, poor perfusion of the dissected planes, as well as toxic effects from BioGlue, may cause tissue death. In our center, which has a small volume of acute type A aortic dissection surgeries, most dissected sinuses are reattached with BioGlue, and the sinotubular junction is reinforced 2 felt strips (Figure 1).³ During a 9-year study period, we performed aortic root replacement or reimplantation in only 7% of these patients (7/99 cases) and had a second operation for a noncoronary sinus aneurysm occur in only 1 patient. The aneurysmal sinus was replaced with a teardrop vascular graft, and the remaining 2 sinuses (previously repaired with BioGlue) remained intact. The injection of BioGlue into the false lumen may produce hemostasis² and reduce aortic root replacement. Use of a 6-0 Prolene suture at the torn site and application of BioGlue in the dissected sinuses can avoid aortic root replacement, especially in cases with a torn intima or adventitia in the aortic root (Figure 1). To obliterate the false lumen of the dissected sinuses, the false lumen should be completely dried and thoroughly attached without gaps with BioGlue. On the basis of recent reports of the low surgical mortality and rare reoperation for aortic root,^{3,4} the use of BioGlue for aortic root repair should not be considered taboo. We do not use BioGlue for the repair of distal aortic dissection with hemiarch or total arch replacement because of the risk of distal embolization. We always first repair the dissected aortic root under aortic cross-clamping while lowering the temperature with cardiopulmonary bypass.³

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FIGURE 1. Repair of a dissected aortic root. A and B, The torn adventitia (A, arrow) was sutured with a 6-0 Prolene (Ethicon Inc, Somerville, NJ) suture (B, arrow) before application of BioGlue (CryoLife Inc, Kennesaw, Ga). C, After the dissected sinuses were reattached with BioGlue (arrow), the sinotubular junction was reinforced with 2 felt strips (arrowhead). D, The aortic graft was anastomosed to the reinforced sinotubular junction with telescopic suture technique (arrow).

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TO GLUE OR NOT TO GLUE IN TYPE A DISSECTION REPAIR?

Reply to the Editor:

In the current issue of the *Journal*, Drs Lee and Choi respond to the article published by Yang and colleagues¹ concerning the use of Prolene 50 suture (Ethicon, Inc, Somerville, NJ) without the use other anastomotic reinforcement technique in type A dissection repair. Drs Lee and Choi revive the vivid debate on the use of BioGlue in type A dissection repair. A summary of their experience seems to support good results with a high rate of root preservation with the use of BioGlue (CryoLife, Inc, Kennesaw, Ga). To address this controversial issue, one has to be reminded

of the main objectives that the surgeon wants to accomplish during a type A repair: (1) to resect the ascending aorta and if possible the primary intimal tear, (2) to restore and save if feasible the aortic valve competency, (3) to secure hemostasis, and (4) to ensure patient survival with minimal early and late complications. During the past 2 decades, many improvements in the field of cardiac surgery have contributed to improve our capacity to reach these goals, such as the development of novel cerebral protection techniques, use of moderate hypothermia to reduce overall cardiopulmonary bypass time, and establishment of multidisciplinary teams with expertise in the management of aortic dissection. Current graft technology and coagulation monitoring/transfusion protocols have also decreased bleeding issues. BioGlue was introduced in 2001 to improve hemostasis of suture lines and reinforce fragile tissue before reconstruction, such as in type A aortic dissection.

Experimentally, BioGlue has been reported to induce inflammatory changes and anastomotic stenosis in coronary artery anastomoses.² The mechanical properties of BioGlue show an increased stiffness compared to normal aortic tissue, which may promote pseudoaneurysm formation through augmented stress on the less compliant native aortic wall.³ The low viscosity of BioGlue has been reported to promote leakage through anastomoses or needle holes. Furthermore, neurotoxicity has also been described as a result of the glutaraldehyde component of BioGlue.⁴